

FM/AM STEREO RECEIVER

# A-711/711L

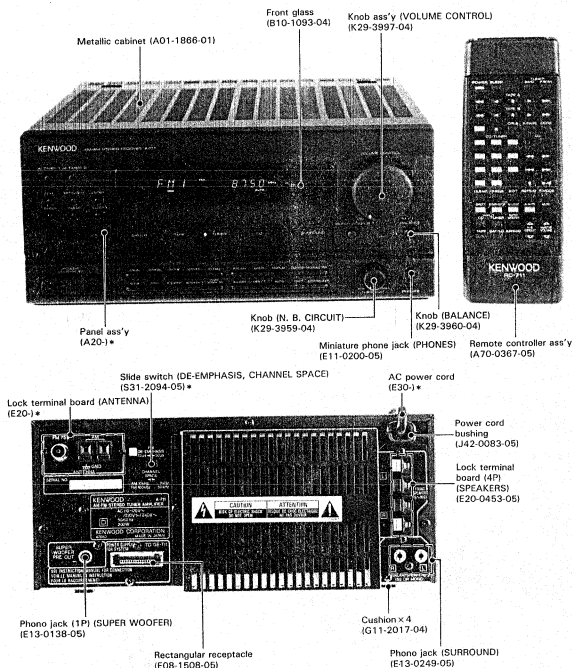
## SERVICE MANUAL

(COMPACT HIFI SYSTEM  
UD COMPONENT SYSTEM

UD-7)

# KENWOOD

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B51-4166-00(T)3452



[ A-711 : K, P, Y, M, X type  
A-711L: T, E type ]

\*Refer to parts list on page 46.  
Photo is A-711.

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## NOTES REGARDING SERVICES OF THIS UNIT AND FEATURES OF SYSTEM

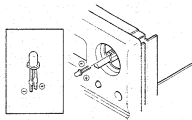
- Be sure to refer to the instruction manual of UD-7 of this system for the operation.
- This unit is the receiver that is mounted with tuner and amplifier. However, as INPUT SELECTOR IC is incorporated into the graphic equalizer (GE-711), signal system goes through the graphic equalizer. Therefore, radio waves cannot be received with this unit alone.  
When you listen to radio waves with this unit alone, connection must be made by the following method:  
a) Facilitated connection method, or b) Regular connection method.
- Instead of tuner output, AG output can also be connected to X09 side.  
a) Facilitated connection method (It can be connected at once after case is opened)  
Connect the output pin TP7(Lch) and TP9(Rch) of the tuner board (X05, A/6) with the test pin TP1(Lch) and TP3(Rch) of main board (X09) (B/5). <Fig. 1> (Output decreases partly because of the relation with input impedance)  
b) Regular connection method (Refer to disassembly method for repair)  
Connect the output pin TP7(Lch) and TP9(Rch) of the tuner

- board (X05, A/6) which stands against the rear wall with lead wire (for input) of R1(Lch) and R2(Rch) of main board (X09) (A/5) which is installed below the tuner board. With this operation, action of the surround circuit which cannot be checked with procedures of a) for output can be checked. <Fig. 2> (Be sure to connect the GND of tuner board (X05, A/6) for activating the microprocessor normally with GND of chassis this time)
- The small radiator cover is attached to this unit. Use it to check power transistors and so on by removing it. In addition, the main board can be checked by removing the bottom board after detaching the case from the unit. (For further detail, refer to the disassembly method for repair)
  - As a new function, one pattern of graphic equalizer has become able to be selected and stored into memory at each INPUT SELECTOR. The memory can be conducted by GE microprocessor. The REC level set by CRLS at each INPUT SELECTOR (excluding TAPE) can also be stored into memory. The memory can be conducted by DECK microprocessor.

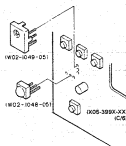
## NOTES REGARDING SERVICES OF THIS UNIT AND FEATURES OF SYSTEM

- AI TIMER1, timer for wake-up, increases its volume every 30 seconds at three stages. Although its main microprocessor is the GE microprocessor, it functions in connection with the tuner and amplifier of unit. (This time, AI LOUDNESS of GE is not subject to operation)
  - AI TIMER2, timer for wake-up, playbacks the first and second track of CD, then receives the radio broadcasting automatically.
- The A1, sensor for remote-control light receptor, of X05 uses initially W02-1049-05 and uses W02-1048-05 thereafter. They can be installed on printed board even though their shapes and the location of terminals are different from each other.

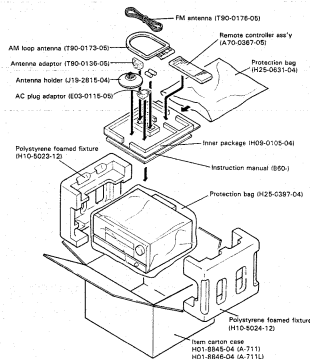
- LED for VOLUME (Part number: B30-1284-08)  
It is basically the LED for volume, which serves as one part of master VOL ass'y (R29-5042-05). However, the LED can be easily removed with tweezers after removing the volume thumbscrew when LED malfunctions.



- Exchange the fuse resistance mounted on the printed board of power-source transformer for a new one after removing the transformer and putting it on the side of the set.



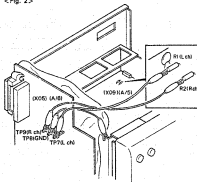
## PACKING



&lt;Fig. 1&gt;



&lt;Fig. 2&gt;

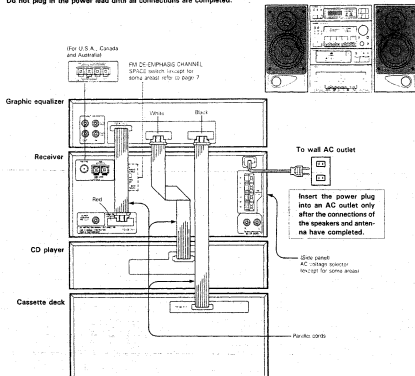


## System connections

Make connection as shown below. When connecting the related system components, refer also to the instruction manuals of the related components.

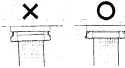
When connecting the parallel cord, be sure to match the colors of the sockets.

Do not plug in the power lead until all connections are completed.



## ■ Connection of parallel cord

- Hold the connector of the parallel cord in parallel with the socket on the rear panel, and insert securely until it clicks.
- Connect the parallel cord by matching the colors of the connector and socket.
- When unplugging the parallel cord, push and hold the two ends of the connector and pull the connector straight from the rear panel socket.

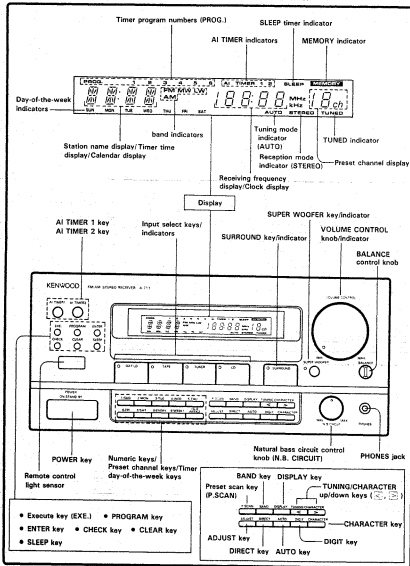


### Notes:

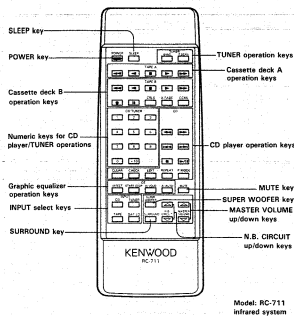
- Connect all cords firmly. If connections are loose there could be loss of sound or noise produced.
- When plugging and unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.

## Controls and indicators

### ■ Receiver



## Operation of remote control unit



## Loading batteries

## 1 Remove the cover.



## 2 Insert batteries.



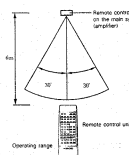
Insert two AA-size (R6/SUM-3) batteries as indicated by the polarity marking.

## 3 Close the cover.



## Operation procedure

Plug the power cord of the system into an AC wall outlet, and press the POWER key on the remote control unit to turn the power on.  
When the power is turned on, press the key of the source component to be operated.



- When two operation keys on the remote control unit are pressed successively, press each key securely reserving an interval of more than 1 second for each press.

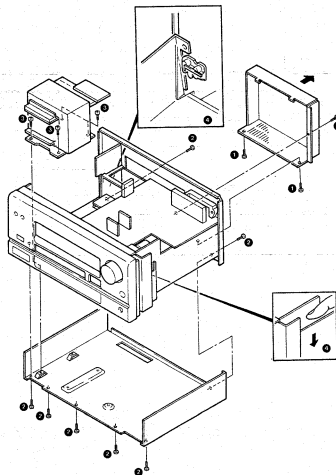
## Notes:

- The supplied batteries are intended for use in operation checks. Therefore, their lives may be shorter than ordinary batteries.
- When the remote-controllable distance gets shorter than before, replace both batteries with new ones.
- Malfunction may occur if direct sunlight or the light of a high-frequency lighting fluorescent lamp enters the remote control light sensor. In such a case, change the system installation position to prevent the malfunction.

## DISASSEMBLY FOR REPAIR

## How to remove the chassis of bottom board

- Detach the radiator cover by removing the three screws (1) from the cover of rear side. (It is used for check and so on of power transistor)
- Remove seven screws (2) of chassis of added bottom board.
- Remove four screws (3) of the transformer.
- Remove the chassis of bottom board from the right side of front panel by paying attention not to hook it with surround terminals. (4)



## CIRCUIT DESCRIPTION

Function of components  
Tuner unit (X05-3992-711)

Ref No.	Components	Use/Function	Operation/Condition
IC1	LA1265	FM/AM system IC	FM IF amplification, FM detection, AM MIX, AM IF amplification and AM detection.
IC2	AN7470	Audio demodulation (AM, FM)	FM stereo multiplex
IC3	LM7001	PLL IC	PLL
IC5	CX950112-127Q	Tuner microprocessor	Tuner control, timer operation and control of others.
IC6	$\mu$ PD7838ACU-232	Amplifier microprocessor	Amplifier control.
IC7	PST529D	Reset IC	Generates the reset power source.
IC9	$\mu$ PC7805HF or AN7805F	+5V 3-terminal regulator	+5V rectification
IC10	$\mu$ PC7805HF or AN7805F	+5V 3-terminal regulator	+5V rectification
Q1	25C1923(R,Q)	IF amplification	IF amplification of FM
Q2	25K163(L,M)	PLL time constant conversion SW	At the time of LW reception: OFF
Q3	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	L.P.F.	L.P.F. for PLL (Integration type)
Q4	25C1845(F,E)	L.P.F.	L.P.F. for PLL (Integration type)
Q5	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	MW/LW conversion	At the time of MW: ON
Q6	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	MW/LW conversion	At the time of LW: ON
Q7	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	Buffer	Buffer for FM detecting output (for L.P.F. matching)
Q8	25A733(A,I,Q,P) or 25A933S(I,Q,R)	FM + B conversion	At the time of receiving FM: ON
Q9	25A733(A,I,Q,P) or 25A933S(I,Q,R)	LW + B conversion	At the time of receiving LW: ON
Q10	25A733(A,I,Q,P) or 25A933S(I,Q,R)	MW + B conversion	At the time of receiving MW: ON
Q11	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	Deemphasis conversion	$\left( 50 \mu\text{sec.} \leftrightarrow 75 \mu\text{sec.} \right)$ At the time of Tr: ON: 75 $\mu\text{sec.}$
Q12	25C945(A,I,Q,P) or 25C1740S(I,Q,R)	Deemphasis conversion	
Q13	25C945(A,I,Q,P) or 25A1740S(I,Q,R)	Reversing circuit	Controls reset circuit (Tuner $\mu$ -COM)
Q14	25A733(A,I,Q,P) or 25A933S(I,Q,R)	Reversing circuit	Controls reset circuit (Amplifier $\mu$ -COM)
Q15	25A733(A,I,Q,P) or 25A933S(I,Q,R)	Reversing circuit	Reverses the mute signal from the amplifier microprocessor.
Q16	25A733(A,I,Q,P) or 25A933S(I,Q,R)	Reversing circuit	Reverses the mute signal from the tuner microprocessor.
Q17	25A733(A,I,Q,P) or 25A933S(I,Q,R)	Destination Conversion SW	Converts deemphasis and channel space.
Q18	25D1302(S,T)	Mute	Mute SW of Lch.
Q19	25D1302(S,T)	Mute	Mute SW of Rch.
Q21	25D1266(I,P)	+14V rectification	Generates the stabilized power source for 14V.
Q22	25C945(A,I,Q,P) or 25C1740S(I,Q,R)		
Q23	25C945(A,I,Q,P) or 25C1740S(I,Q,R)		

## CIRCUIT DESCRIPTION

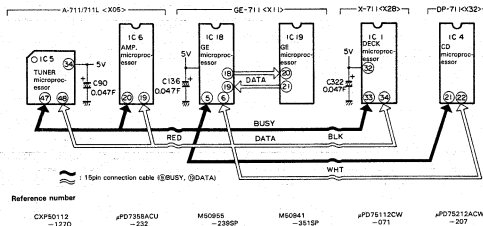
## Function of components

Audio unit (X09-3142-71)

Ref No.	Components	Use/Function	Operation/Condition
IC1	NUM206SD	Sumound	Sumound buffer
IC2	NUM206SD	Headphone amplifier, Super woofer buffer, VR detecting comparator	IC2 (1/4) (2/4) headphone amplifier, IC2 (3/4) super-woofer buffer, IC2 (4/4) comparator
IC3	TC8215P	Sumound selector	Sumound is turned ON/OFF with the pin No. 23 of IC6 <X05>. H: ON, L: OFF
		Mute	MUTE is turned ON/OFF with the pin No. 13 of IC6 <X05>. H: ON, L: OFF
IC4	μPC1237HA	Protection	
IC5	TA8409S	Main volume drive	MAIN VOL is turned DOWN/UP with the pin Nos. 6 and 7 of IC6 <X05>.
IC6	TA8409S	N.B.C. volume drive	N.B.C. VOL is turned DOWN/UP with the pin Nos. 10 and 11 of IC6 <X05>.
IC7	μPC7919HF	-15V stabilizing power source	3-terminal regulator
Q1-4	2SA921F.E	For the 1st stage A class	
Q5, 6	2SA921F.E	For the 2nd stage A class	
Q7-10	2SC1845F.E	For the 2nd stage A class	
Q11, 12	2SC1377F18V.W	For temperature compensation	
Q13, 14	2SC2268B1+S	Final Tr.	
Q15, 16	2SB1493B1+S	For detecting overloading	
Q17, 18	2SC3531R.S	For super woofer muting	It is turned ON by turning on Q52.
Q51	2SC367B(B)	Super woofer muting drive	It is turned ON by lowering pin No. 9 of IC6 (X05).
Q52	2SA733A(IQ,P) or 2SA933S(IQ,R)	Ripple filter	
Q54	2SA921F.E	For protection	
Q55	2SC3666	AC relay drive	It drive AC relay K1, 2 with the pin No.14 of IC6 (X05).
Q56	2SC1740S(IQ,R) or 2SC345A(IQ,P)	Speaker relay drive	It drives the SP relay K3 with the pin No.16 of IC6 (X05).
Q57	2SD1266(IQ,P)	+15V stabilizing, power source	
D1, 2	HSS104 or 1SS133	For A class	
D3, 4	HSS104A or 1SS131	For protection	
D11	RBV-602LFA	For rectification	
D12	HZS155(B) or RD15J5(B)	+15V stabilizing, power source	
D13	HZS155(B) or RD15J5(B)	For +15V stabilizing power source A class	
D14, 15	HZS5.1N(B2) or RD5.1S(B2)	For VR detection	
D16	HZS4.7N(B) or RD4.7S(B)	For muting	
D17-22, 34, 35	HSS104 or 1SS133	For protection of static electricity	
D23	HSS104 or 1SS133	For removing headphone shock noise	
D24	HSS104 or 1SS133	For removing selector shock noise	
D25, 26	HSS104 or 1SS133	For relay	
D27	HSS104A or 1SS131	For relay	
D28	HSS104A or 1SS131	For detecting protection AC	
D29	55566B	For rectifying AC relay power source	
D32	HSS104 or 1SS133	For mute	
D33	HSS104 or 1SS133	For VR LED	
D34 or 35	HSS104 or 1SS133	For protection of static electricity	

## CIRCUIT DESCRIPTION

## Microprocessor and back-up condenser of this unit



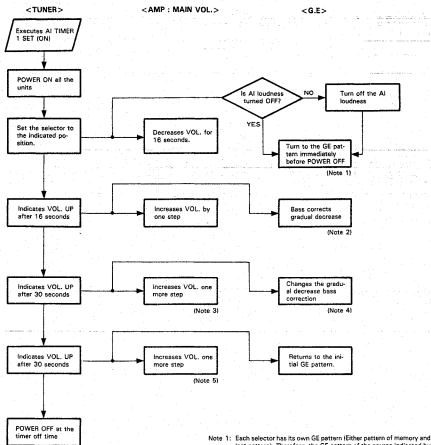
## Initialization (reset) of each microprocessor and test mode

	A-711/711L	GE-711	X-711	DP-711
	TUNER microprocessor IC5 (X05)	AMP. microprocessor IC6 (X05)	DECK microprocessor IC1 (X28)	CD microprocessor IC4 (X32)
Back-up Condenser	(X05) C90 0.047F 5.6V	None	(X11) C136 0.047F 5V	None
Initialization (Reset)	Insert the AC plug to the outlet while pressing the "ENTER" key.	Pull out the AC plug from the outlet and then insert again.	Turn on AC while pressing the "ENTER" and "MEMO" keys of GE.	Keep pressing the "ENTER" key for more than three seconds per selector turns out to be -15 dB.
Operation	While simultaneously pressing the selector "CD" and tuning "DOWN" keys, insert AC plug into the outlet and simultaneously touch off the keys.	(1) Turn on AC while pressing the "FLAT" key. (2) There is also the selector test mode.	For details, see the service manual of X-711.	There is the adjustment test mode. For details, see the service manual of DP-711.
Release	Press either one of ten keys, "BAND" or "UP/DOWN" keys.	Turn AC on and off without pressing any key.	No FL tube.	
Contents	(1) Turns on all the FL tubes. For details, see the service manuals of various equipment.			



## CIRCUIT DESCRIPTION

## ② Indication flow of AI TIMER 1



Note 1: Each selector has its own GE pattern (Either pattern of memory and last pattern). Therefore, the GE pattern of the source indicated by the timer appears.

Note 2: Shifts to the pattern which has the loudness effect (There are two patterns of the gradual decrease bass correction of AI TIMER 1).

Note 3: The three steps of increase volume can be selected.

Note 4: Decrease correction volume is lowered in accordance with VR UP.

Note 5: Same as Note 3. However, the VR position is limited at the position of 12.

## CIRCUIT DESCRIPTION

## Function description

## a) AI TIMER 1

- With the program timer mode set to PLAY, when the timer is turned ON, the setting contents for the AI TIMER 1 is activated if the AI TIMER 1 is set to ON (the FL indicator is lit).
- When the AI TIMER 1 is turned ON, first playback starts with the minimum volume level, then the volume level is increased in three steps.
- The third-step volume level (the maximum volume level) can be selected among the three types of the volume levels (VOL. 1-3). Each time the AI TIMER 1 key is pressed, the maximum volume level is changed in order from VOL. 1 to VOL. 3 and TIMER OFF setting cyclically.

## ① When the key is pressed with the AI TIMER

1 is OFF (FL indicator is not lit):

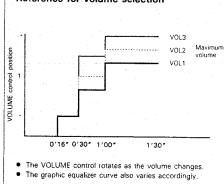
OFF → VOL. 1 → VOL. 2 → VOL. 3

## ② When the key is pressed in the volume setting mode (FL indicator is lit):

Example: When VOL. 2 is selected

VOL. 2 → VOL. 3 → OFF → VOL. 1

## Reference for volume selection



- The VOLUME control rotates as the volume changes.
- The graphic equalizer curve also varies accordingly.

## b) AI TIMER 2

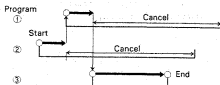
- With the program timer mode set to PLAY, when the timer is turned ON, the setting contents for the AI TIMER 2 is activated if the AI TIMER 2 is set to ON (FL indicator is lit).
- When the AI TIMER 2 is turned ON, if the disc is loaded in the CD player, the two tracks on the disc is played regardless whether the other source is set for play. Then, the playback source is changed to tuner automatically.
- Each time the AI TIMER 2 key is pressed, the timer setting is changed alternately.

## Timer program operation

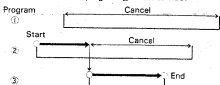
## &lt;When the program settings are registered within the same period&gt;

- When the two or more program settings are to be started at the same time:  
The program having the least number is activated and others will be cancelled.
- When the setting time for two or more programs differ:  
First, the program with the earliest setting time is activated. Then, if the same mode (REC mode or PLAY mode) has been designated for the other program, the operation is changed to the programs in which the same mode as the first one is designated and the end time for the above program will be cancelled. If another mode is set for of other programs, the contents will be cancelled.

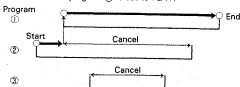
## Example 1: When the operation modes for all three programs are set to PLAY:



## Example 2: When the operation modes for programs ②, ③ are set to PLAY and that for the program ① is set to REC:



## Example 3: When the operation mode for programs ①, ② are set to REC and that for program ③ is set to PLAY:



The program end is determined by the OFF time of the program which is activated at the last.



## CIRCUIT DESCRIPTION

### N.B. CIRCUIT (X09-3142-71 (B/5))

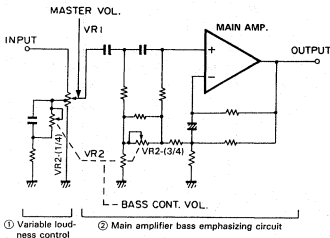
The N.B. of N.B. CIRCUIT stands for Natural Bass, and it is the circuit to create further natural bass sound.

It is roughly composed of ① Variable loudness control and ② Main amplifier bass emphasizing circuit showed in the chart.

The ① Variable loudness control in the chart has become able to vary the level of loudness control by mounting the traditional loudness control variable VR (VR2, (1/4)) onto itself.

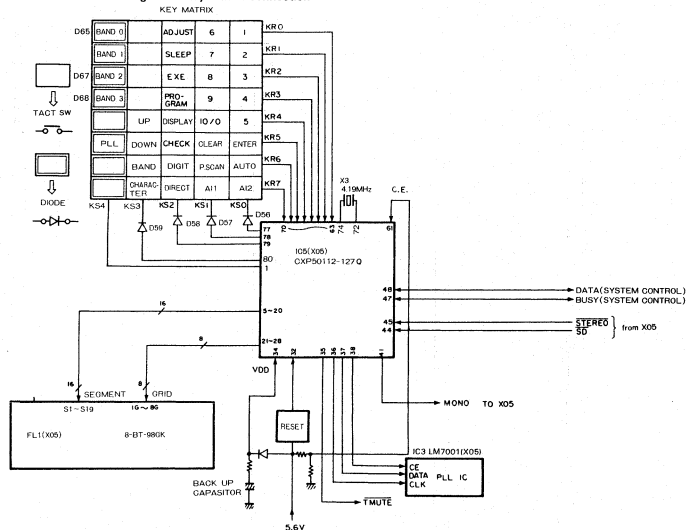
The ② main amplifier bass emphasizing circuit can boost up the desired frequency with the fixed number of C.R. parts for input and returning C.R. parts of main amplifier. It has also become able to vary these boost levels by mounting VR2, (3/4) onto it. The fixed number of this A-711/711L has been set so as to boost up 60 Hz.

The action of this circuit results from the combination of aforementioned ① and ②, which also can vary the boost level of bass sound at the same time.



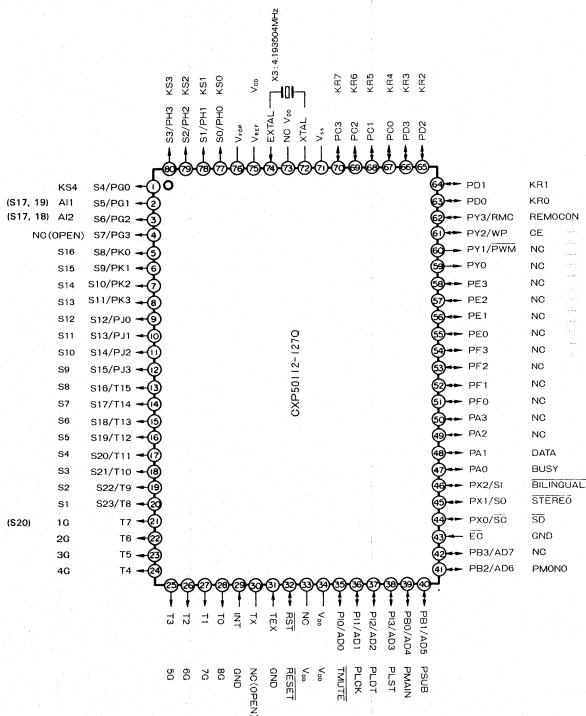
### IC5: CXP50112-127Q (X05-3992-71) TUNER microprocessor

#### Terminal connection diagram & key matrix connection



## CIRCUIT DESCRIPTION

### Pin connections



## CIRCUIT DESCRIPTION

Pin functions

Pin No.	Pin name	I/O	Symbol	Description	
1	S4PGD	O	KS4	Key scan output	H: ON L: OFF
2	S5PG1	O	A11	A11 ON/OFF FL segment output (S17,19)	H: ON L: OFF
3	S6PG2	O	A12	A12 ON/OFF FL segment output (S17,18)	H: ON L: OFF
4	S7IPK3		NC		
5	S8PK0	O	S8	FL segment output	S16 H: ON L: OFF
6	S9PK1	O	S9	FL segment output	S15 H: ON L: OFF
7	S10PK2	O	S10	FL segment output	S14 H: ON L: OFF
8	S11PK3	O	S11	FL segment output	S13 H: ON L: OFF
9	S12PK0	O	S12	FL segment output	S12 H: ON L: OFF
10	S13PK1	O	S13	FL segment output	S11 H: ON L: OFF
11	S14PK2	O	S14	FL segment output	S10 H: ON L: OFF
12	S15PK3	O	S15	FL segment output	S9 H: ON L: OFF
13	S16T16	O	S16	FL segment output	S8 H: ON L: OFF
14	S17T14	O	S17	FL segment output	S7 H: ON L: OFF
15	S18T13	O	S18	FL segment output	S6 H: ON L: OFF
16	S19T12	O	S19	FL segment output	S5 H: ON L: OFF
17	S20T11	O	S20	FL segment output	S4 H: ON L: OFF
18	S21T10	O	S21	FL segment output	S3 H: ON L: OFF
19	S22T9	O	S22	FL segment output	S2 H: ON L: OFF
20	S23T8	O	S23	FL segment output	S1 H: ON L: OFF
21	T7	O	T7	FL grid output	1G(S20) H: ON L: OFF
22	T6	O	T6	FL grid output	2G H: ON L: OFF
23	T5	O	T5	FL grid output	3G H: ON L: OFF
24	T4	O	T4	FL grid output	4G H: ON L: OFF
25	T3	O	T3	FL grid output	5G H: ON L: OFF
26	T2	O	T2	FL grid output	6G H: ON L: OFF
27	T1	O	T1	FL grid output	7G H: ON L: OFF
28	T0	O	T0	FL grid output	8G H: ON L: OFF
29	INT	I	INT	External interrupt pin ... unused	
30	TX	O	TX	Timer oscillation pin ... unused	
31	TEX	I	TEX	Timer oscillation pin ... unused	
32	RESET	I	RESET	Reset input	H: NORMAL L: RESET
33	NC		NC		
34	VDD			Power supply pin	
35	PMIAD0	O	TMUTE	Mute output	H: MUTE OFF L: MUTE ON
36	PMIAD1	O	PLCK	Clock to PLL or extension IC	
37	PMIAD2	O	PLDT	Data output to PLL or extension IC	
38	PMIAD3	O	PLST	Chip enable output for PLL	
39	PMIAD4	O	PMMAIN	TV sound MPX selection output	
40	PMIAD5	O	PMSUB	TV sound MPX selection output	
41	PMIAD6	O	PMONO	Stereo/monaural selection	H: MONO L: STEREO
42	PMIAD7	O	NC		
43	EC	I	EC	Event counter input ... unused	
44	PMIAD8	I	SD	Tuning signal input	H: OFF L: TUNED
45	PMIAD9	I	ST	Stereo signal input	H: MONO L: STEREO

## CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Symbol	Description	
46	PX2/SL	I	BL	Bilingual signal input	H: NORMAL L: BILINGUAL
47	PA0	I/O	BUSY	System control busy	
48	PA1	I/O	DATA	System control data	
49	PA2	O	NC		
50	PA3	O	NC		
51	PF0	O	NC		
52	PF1	O	NC		
53	PF2	O	NC		
54	PF3	O	NC		
55	PE0	O	NC		
56	PE1	O	NC		
57	PE2	O	NC		
58	PE3	O	NC		
59	PY0	O	NC		
60	PY1/PWM	O	NC		
61	PY2/VIP	I	CE	AC ON/OFF detection input	H: ON L: OFF
62	PY3/RMC	I	RMCN	Remote control input	
63	PD0	I	KR0	Key return input	H: With input L: Without input
64	PD1	I	KR1	Key return input	H: With input L: Without input
65	PD2	I	KR2	Key return input	H: With input L: Without input
66	PD3	I	KR3	Key return input	H: With input L: Without input
67	PC0	I	KR4	Key return input	H: With input L: Without input
68	PC1	I	KR5	Key return input	H: With input L: Without input
69	PC2	I	KR6	Key return input	H: With input L: Without input
70	PC3	I	KR7	Key return input	H: With input L: Without input
71	VSS			GND pin	
72	XTAL	O	XTAL	For oscillator	
73	NC				
74	EXTAL	I	EXTAL	For oscillator	
75	VDET			For voltage detection reset ... unused	
76	VDET		VDET	FL terminal pull-down resistor power supply	
77	S0IPH0	O	K50	Key scan output	H: ON L: OFF
78	S1IPH1	O	K51	Key scan output	H: ON L: OFF
79	S2IPH2	O	K52	Key scan output	H: ON L: OFF
80	S3IPH3	O	K53	Key scan output	H: ON L: OFF

## CIRCUIT DESCRIPTION

## Test mode

## (1) Setting method

Insert the AC plug into an outlet and remove your fingers from DOWN key at the same time while pressing DOWN key.

## (2) Contents

POWER ON  
All the FLs turned on  
Test Frequency Setting (Table 1)

## (3) Clearing method

All the turned on FLs can be cleared with ten keys, BAND key, UP/DOWN key or POWER key.

## Setting of initial conditions (reset)

## (1) Method

While pressing ENTER key, turn the AC ON.

## (2) Contents

Clears all the memory and returns to the initial conditions. However, the test frequency is newly memorized in the preset memory at this time. (The same as when the back-up data is NG.)

Destination	Band	J	K,P,Y,M,X	T,E
FM (FM1)	1	76.0 MHz	87.5 MHz	87.5 MHz
	2	78.0 MHz	89.1 MHz	89.1 MHz
	3	80.0 MHz	90.0 MHz	90.0 MHz
	4	82.0 MHz	92.0 MHz	92.0 MHz
	5	83.0 MHz	94.0 MHz	94.0 MHz
	6	83.5 MHz	98.0 MHz	98.0 MHz
	7	86.0 MHz	100.1 MHz	100.1 MHz
	8	88.0 MHz	102.0 MHz	102.0 MHz
	9	89.1 MHz	106.0 MHz	106.0 MHz
	10	90.0 MHz	108.0 MHz	108.0 MHz
AM	1	531 kHz	530 kHz	531 kHz
	2	630 kHz	630 kHz	630 kHz
	3	990 kHz	980 kHz	990 kHz
	4	1440 kHz	1440 kHz	1440 kHz
	5	1602 kHz	1610 kHz	1602 kHz
	6	—	(1700 kHz)	—
TV/LW	1	1ch	—	153 kHz
	2	3ch	—	162 kHz
	3	4ch	—	216 kHz
	4	8ch	—	270 kHz
	5	12ch	—	281 kHz
	6	13ch	—	—
	7	35ch	—	—
	8	62ch	—	—

## Conditions by destination

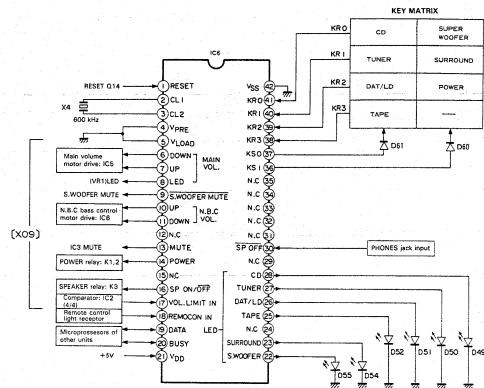
(Table 1)

Destination type	B3	B2	B1	B0	Band	Receiving frequency range	Inter-channel space	Intermediate frequency	PLL reference frequency
J	0	0	0	0	FM	76.0 ~ 90.0 MHz	100 kHz	~ 10.75 MHz	25 kHz
					AM	531 ~ 1602 kHz	9 kHz	~ 450 kHz	9 kHz
					TV	1 ~ 62ch	6 MHz	~ 10.75 MHz	25 kHz
M,Y	1	1 or 0	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	~ 10.7 MHz	50 kHz (25 kHz)
					AM	531 ~ 1602 kHz / 530 ~ 1610 kHz	9 kHz / 10 kHz	~ 450 kHz	10 kHz
					FM	87.5 ~ 108.0 MHz	100 kHz	~ 10.7 MHz	50 kHz (25 kHz)
					AM	530 ~ 1610 kHz	10 kHz	~ 450 kHz	10 kHz
K,P	1	0	0	0	FM	87.5 ~ 108.0 MHz	50 kHz	~ 10.7 MHz	50 kHz (25 kHz)
					AM	531 ~ 1602 kHz	9 kHz	~ 450 kHz	9 kHz
					FM	87.5 ~ 108.0 MHz	50 kHz	~ 10.7 MHz	50 kHz (25 kHz)
					LM	153 ~ 281 kHz	1 kHz	~ 450 kHz	1 kHz
T,E	1	1	0	1	FM	87.5 ~ 108.0 MHz	50 kHz	~ 10.7 MHz	50 kHz (25 kHz)
					MW	531 ~ 1602 kHz	9 kHz	~ 450 kHz	9 kHz
					LM	153 ~ 281 kHz	1 kHz	~ 450 kHz	1 kHz

## CIRCUIT DESCRIPTION

IC6:  $\mu$ PD7538ACU-232 (X05-3992-71)  
AMP. microprocessor

## Terminal connection diagram &amp; key matrix connection



## CIRCUIT DESCRIPTION

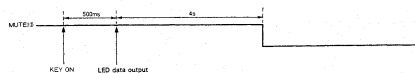
## CIRCUIT DESCRIPTION

Pin functions

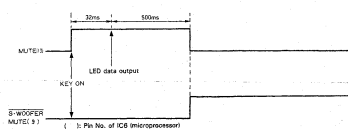
Pin No.	Pin name	I/O	Symbol	Description
1	RESET	I	RESET	Reset input (H: Reset)
2	CL1	—	—	System clock terminal
3	CL2	—	—	System clock terminal
4	VME	—	—	No use. (GND)
5	VLOA2	—	—	No use. (GND)
6	P53	O	VOL DOWN	Motor volume down drive
7	P52	O	VOL UP	Motor volume up drive
8	P51	O	VOL LED	Volume indicator LED drive
9	P50	O	S'WOOFER	Super woofer mute <span style="float:right">H: ON L: OFF</span>
10	P23	O	BASS UP	N.B. circuit volume up drive
11	P22	O	BASS DOWN	N.B. circuit volume down drive
12	P21 PTOUT	—	—	No use. (OPEN)
13	P103	O	MUTE	Mute <span style="float:right">H: ON L: OFF</span>
14	P102	O	POWER	Power relay drive
15	P101	—	—	No use. (GND)
16	P100	O	SP ON/OFF	Speaker ON/OFF conversion <span style="float:right">H: ON L: OFF</span>
17	P113	I	VOL LIMIT IN	Volume position detection input
18	P112	I	REMOCON IN	Remote control input
19	P111	I/O	DATA	Serial data input/output
20	P110	I/O	BUSY	Serial busy input/output
21	V00	—	—	Power supply pin
22	P93	O	S'WOOFER	Super woofer LED drive <span style="float:right">H: ON L: OFF</span>
23	P92	O	SURROUND	Surround ON/OFF and LED drive
24	P91	—	—	No use. (OPEN)
25	P90	O	TAPE	TAPE LED drive
26	P83	O	DAT/LD	DAT/LD LED drive
27	P82	O	TUNER	TUNER LED drive
28	P81	O	CD	CD LED drive
29	P80	—	—	No use. (OPEN)
30	P43	I	SP OFF	Speaker OFF detection input <span style="float:right">Turn SP OFF when "L" signal is input.</span>
31	P42	—	—	No use. (GND)
32	P41	—	—	No use. (GND)
33	P40	—	—	No use. (GND)
34	P33	—	—	No use. (OPEN)
35	P32	—	—	No use. (OPEN)
36	P31	O	KS1	Key scan output signal 1
37	P30	O	KS0	Key scan output signal 0
38	P03-SI	I	KR3	Key return input signal 3
39	P02-SI	I	KR2	Key return input signal 2
40	P01-SICK	I	KR1	Key return input signal 1
41	P00-INTO	I	KR0	Key return input signal 0
42	VSS	—	—	GND pin

Timing chart

## (1) POWER KEY ON



## (2) SELECTOR, SURROUND, SUPER WOOFER KEY ON



\* When the switching of POWER ON/OFF or selector is executed in the condition of SUPER WOOFER ON, S'WOOFER MUTE will have the same timing as MUTE (The logic is reversed).

## Test mode

## a) Setting method

While pressing the "CD" key and tuning "DOWN" key, insert the AC plug into the outlet and simultaneously touch off the key, then the amplifier and tuner simultaneously enter the TEST MODE. When you wish to enter only the amplifier into the TEST MODE, pull out the AC plug from the outlet in the POWER ON condition and insert the AC plug into the outlet while pressing the "CD" key.

## b) Clearing method

In order to simultaneously clear the amplifier and tuner, press either the ten keys, "BAND" key or "UP/DOWN" key. In order to clear the amplifier, press either "TUNER" key or pull out the AC from the outlet. In order to clear the tuner, refer to the tuner microprocessor (page. 22).

## c) Contents of operation

- POWER is turned ON and all the LEDs are lit on.
- By pressing "S'WOOFER", both the VOLUME and N.B. CIRCUIT are simultaneously up, and remain to be up for 12 seconds. Then, they go DOWN and STOPS after about 12 seconds.
- Even if the "CD", "TAPE", "DAT/LD", "SURROUND" and "POWER" keys are pressed, they are not accepted.

## Initial status

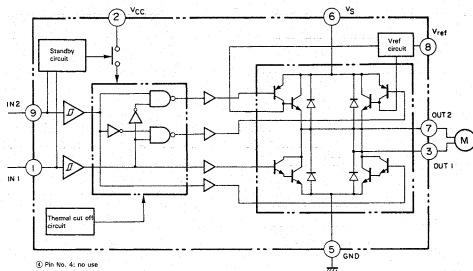
Item	Condition
INPUT	TUNER
SURROUND	OFF
SUPER WOOFER	OFF
POWER	OFF (STAND BY)
MUTE	ON
MOTOR VOLUME CONTROL	OFF
LED	OUT LIGHTS

**Initialization:** Pull the AC plug from the outlet and then insert again.

## CIRCUIT DESCRIPTION

IC5, 6: TA8409S (X09-3142-71)  
Volume motor drive IC

Block diagram



Truth table

INPUT		OUTPUT		MODE
①	②	③	④	Pin No. of IC5, 6
IN 1	IN 2	OUT 1	OUT 2	Motor mode
0	0	no	no	STOP
0	1	L	H	CW
1	0	H	L	CCW
1	1	L	L	BRAKE

no: High impedance  
Input "H" active

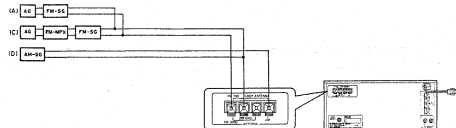
## ADJUSTMENT

## Tuner unit

If alignment point is "...", confirm the value.  
If not, compare the fronted peak and (IC5/IC6-P11).

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN. FOR	FILE
FM SECTION							
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	87.5MHz	—	1.0V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	100.0MHz	—	8.0V	(a)
3	DISCRIMINATOR	80.0MHz (1kHz, 150kHz dev 800Hz(AUT input))	Connect a DC voltmeter between TP12 and TP13	87.0 or 80.0	L2 (CDS-)	0V	(a)
4	AGC	80.0MHz 3 dev 1000Hz(AUT input)	Connect a frequency counter between TP6 and GND	87.0 89.0	V12 (CDS-)	19.0kHz	(c)
5	DISTORTION (STEREO)	80.0MHz 1kHz, 150kHz dev Select 1 or 8 Pin in "TA8409 dev 600Hz(AUT input)"	id	80.0MHz	JFT (CDS-)	Minimum distortion	
6	SEPARATION (E.T type only)	80.0MHz Stereo signal 600Hz(AUT input)	id	87.0 93.0	V13 (CDS-)	Minimum crosstalk	
7	TUNING LEVEL	80.0MHz 3 dev 1000Hz(AUT input) 750	id	ALTO or 80.0 80.0MHz	V11 (CDS-)	Adjust V11 and stop at the point where PL1(CDS) goes on	
AM-MW SECTION							
Keep the AM loop antenna installed. SELECTOR: 50 or 80							
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	530kHz (530kHz)	—	1.5V	(a)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	1610kHz (1610kHz)	—	7.0V	(a)
(3)	IF ALIGNMENT	id 700kHz 400Hz, 100Hz w/c 740Hz(AUT input)	id	89.0kHz	L2 BLACK (CDS-)	Maximum amplitude and symmetry of the oscilloscope display	
AM-LW SECTION (E.T type only) Keep the AM loop antenna installed. SELECTOR: L4							
(4)	BAND EDGE (1)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	251kHz	—	2.0V	(a)
(5)	BAND EDGE (2)	—	Connect a DC voltmeter between TP18(VT) and TP19(CDS)	251kHz	—	7.0V	(a)
(3) Repeat alignments (1) and (2) several times.							
(6)	IF ALIGNMENT	id 275kHz 600Hz, 300Hz and 300Hz(AUT input)	id	274kHz	L3 BLACK (CDS-)	Maximum amplitude and symmetry of the oscilloscope display	

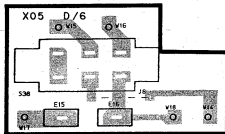
## Connection



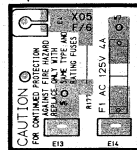


# PC BOARD (Component side view)

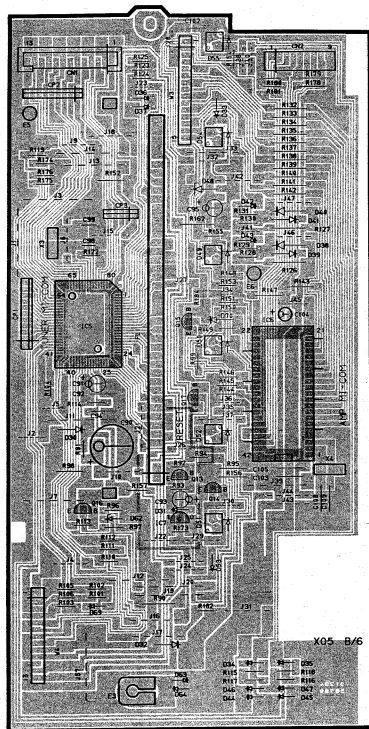
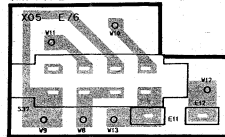
(Y) TYPE



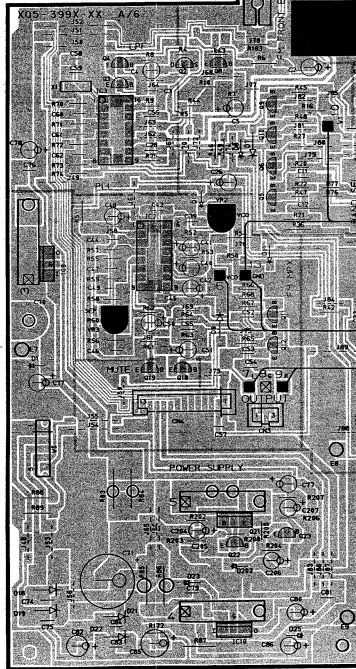
(K, P) TYPE



(M) TYPE



TUNER UNIT  
X05-399X-XX



DE EMPHASIS ANTENNA

- (a) BAND EDGE  
FM (1) 1.6V  
(2) 8.0V  
AM (MW) (1) 1.3V  
(2) 7.0V  
LW (1) 2.3V  
(2) 7.0V

DC voltmeter

(c) VCC 19.00kHz

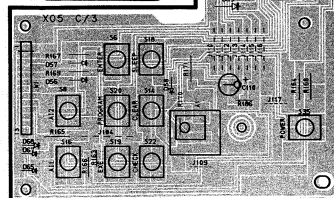
Frequency counter

AC voltmeter

Oscilloscope

(d) Distortion meter

DC voltmeter  
(b) DISCRIMINATOR  
0V





## VOLTAGE TABLES

TUNER UNIT  
(X05-399X-XX)

Ref. No.	Address
1	46
2	46
3	30
4	46
5	30
6	5C
7	46
8	46
9	40
10	7E
11	3F
12	3E
13	3E
14	3D
15	3D
16	3D
17	3D
18	3D
19	3D
20	3D
21	3D
22	3D
23	3D

TUNER UNIT  
(X05-399X-XX)

Ref. No.	Address
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6	3E
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TUNER UNIT  
(X05-399X-XX)

Ref. No.	Address
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TUNER UNIT  
(X05-399X-XX)

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TUNER UNIT  
(X05-399X-XX)

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TUNER UNIT  
(X05-399X-XX)

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AUDIO UNIT  
(X09-314X-XX)

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(X09-314X-XX)

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AUDIO UNIT  
(X09-314X-XX)

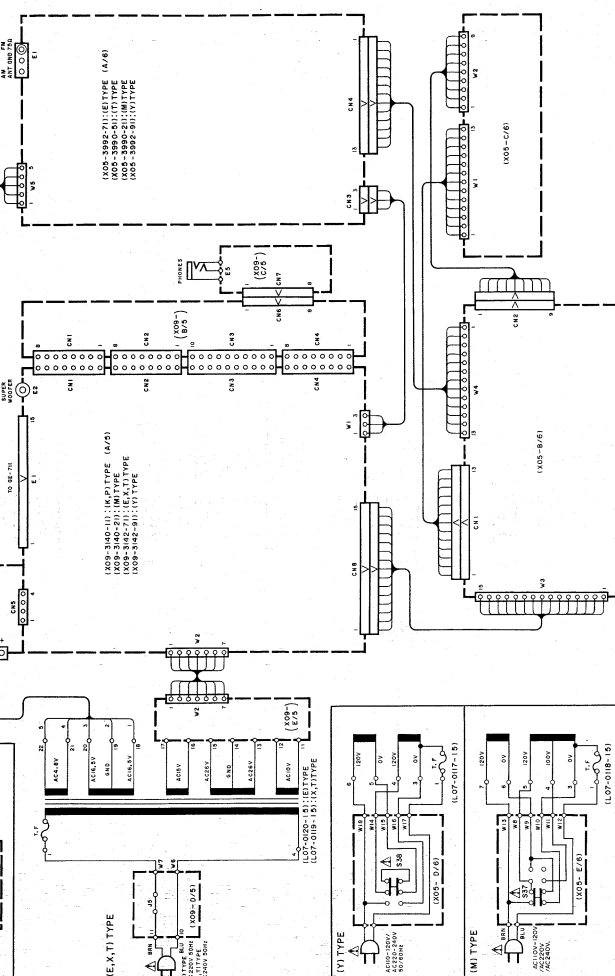
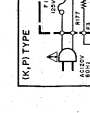
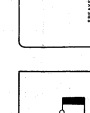
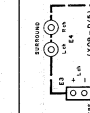
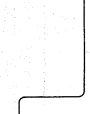
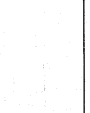
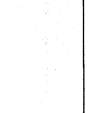
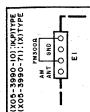
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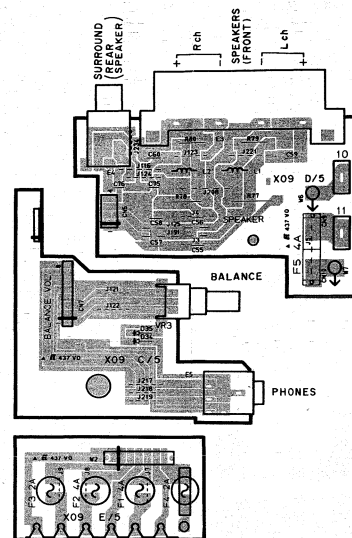
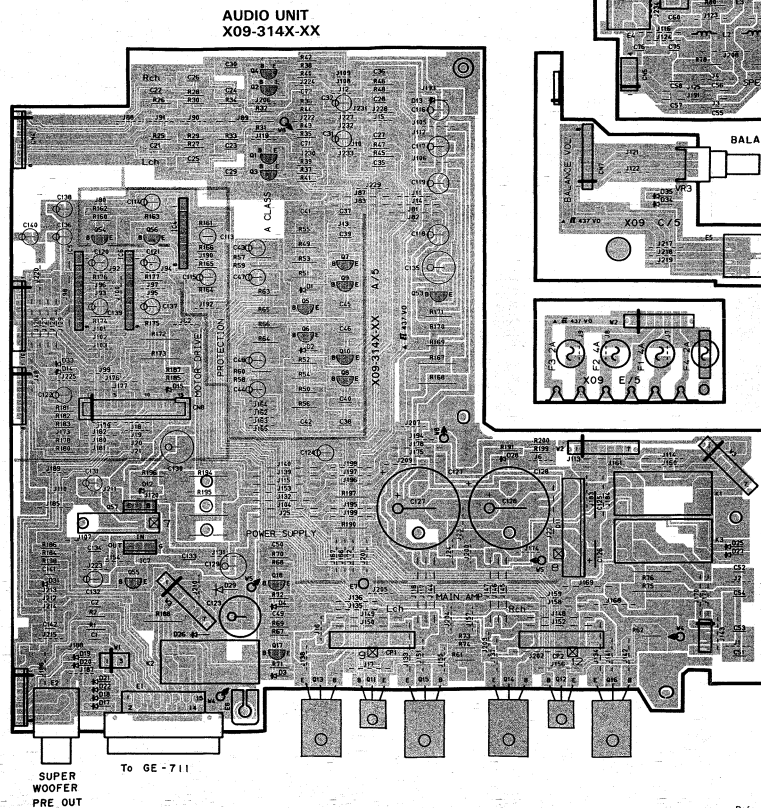
AUDIO UNIT  
(X09-314X-XX)

Ref. No.	Address
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2	3E
3	3E
4	3E
5	3E
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7	3E
8	3E
9	3E
10	3E
11	3E
12	3E
13	3E
14	3E
15	3E
16	3E
17	3E
18	3E
19	3E
20	3E
21	3E
22	3E

AUDIO UNIT  
(X09-314X-XX)

Ref. No.	Address
1	3E
2	3E
3	3E
4	3E
5	3E
6	3E
7	3E
8	3E
9	3E
10	3E
11	3E
12	3E
13	3E
14	3E
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17	3E
18	3E
19	3E
20	3E
21	3E
22	3E

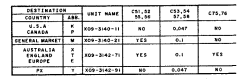




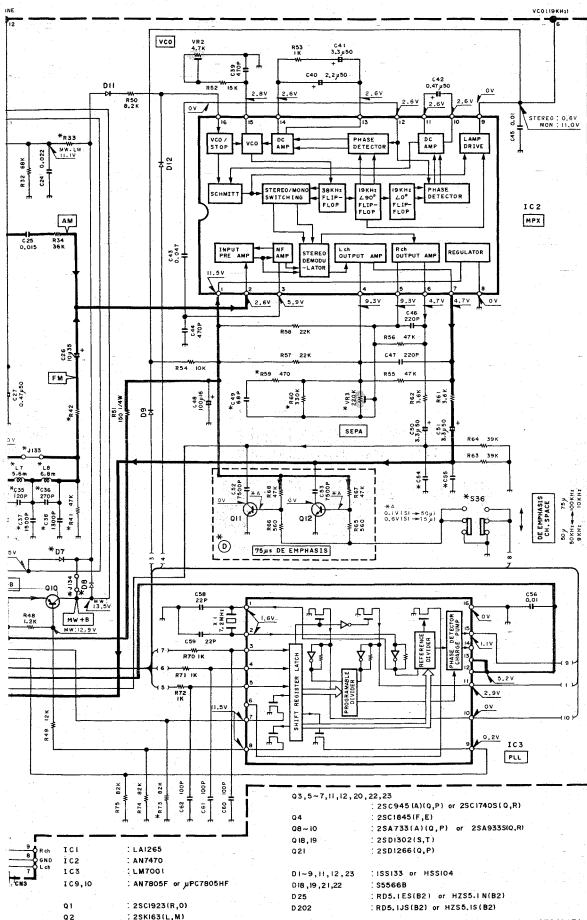
AUDIO UNIT (X09-314X-XX)			
Ref. No.	IC	Q	Address
1			6P
2			4P
3			5P
4			3R
5			4Q
6			4R
7			5R
		1	3R
		2	2R
		3	3R
		5	4S
		6	4S
		7	3S
		8	4S
		9	4S
		10	4S
		11	6S
		12	6T
		13	8S
		14	6T
		15	6T
		16	8U
		17	9S
		18	6S
		51	6P
		53	4T
		54	3Q
		55	6R
		56	3R
		57	5R

















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Ref. No. 参照番号	Address 位置	New 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
<b>A-711/711L</b>						
601	1A	*	A01-1666-01	METALLIC CABINET	TE KPYMX	
602	1A	*	A09-0106-08	BATTERY COVER		
604	2A	*	A20-6102-02	PANEL ASSY(A-711)		
604	2A	*	A20-6107-02	PANEL ASSY(A-711)		
608	1B	*	A70-0367-05	REMOTE CONTROLLER ASSY		
613	3A	*	B10-1093-04	FRONT GLASS		
-		*	B46-0092-03	WARRANTY CARD	K	
-		*	B46-0094-03	WARRANTY CARD	Y	
-		*	B46-0095-03	WARRANTY CARD	X	
-		*	B46-0096-13	WARRANTY CARD	Y	
-		*	B46-0121-03	WARRANTY CARD	P	
-		*	B46-0143-13	WARRANTY CARD	T	
-		*	B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-		*	B58-0603-13	CAUTION CARD	E	
-		*	B60-0155-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B60-0156-00	INSTRUCTION MANUAL (FRENCH)	PE	
-		*	B60-0157-00	INSTRUCTION MANUAL (GERMAN)	E	
-		*	B60-0158-00	INSTRUCTION MANUAL (DUTCH)	E	
-		*	B60-0159-00	INSTRUCTION MANUAL (ITALIAN)	E	
-		*	B60-0160-00	INSTRUCTION MANUAL (CHINESE)	M	
-		*	B60-0161-00	INSTRUCTION MANUAL (SPANISH)	M	
Δ 615	1B	*	B03-0115-05	AC PLUG ADAPTER	M	
Δ 620	1B	*	E30-0459-05	AC POWER CORD	ME	
Δ 620	1D	*	E30-0812-05	AC POWER CORD	Y	
Δ 620	1D	*	E30-0974-05	AC POWER CORD	XP	
Δ 620	1D	*	E30-1341-05	AC POWER CORD	X	
Δ 620	1D	*	E30-1416-05	AC POWER CORD	T	
628	3B, 3D	*	G11-2017-04	CUSHION		
-		*	H01-8845-04	ITEM CARTON CASE(A-711)	KPYMX	
-		*	H01-8846-04	ITEM CARTON CASE(A-711)	TE	
-		*	H09-0105-04	INNER PACKAGE		
-		*	H10-5023-12	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-5024-12	POLYSTYRENE FOAMED FIXTURE		
-		*	H20-0566-04	PROTECTION COVER	M	
-		*	H25-0397-04	PROTECTION BAG	KPYXTE	
-		*	H25-0631-04	PROTECTION BAG		
633	2B	*	J19-2815-04	ANTENNA HOLDER		
Δ 634	3C	*	J19-3300-05	UNIT HOLDER		
Δ 635	1C	*	J42-0063-05	POWER CORD BUSHING		
-		*	J11-0167-05	WIRE CLAMPER		
-		*	J41-0307-05	WIRE BAND		
644	3A	*	K29-3599-04	KN08(N.B. CIRCUIT)		
645	3A	*	K29-3640-04	KN08(BALANCE)		
647	3A	*	K29-3997-04	KN08 ASSY(VOLUME)		
Δ 652	3C	*	L07-0116-15	POWER TRANSFORMER	KP	
Δ 652	3C	*	L07-0117-15	POWER TRANSFORMER	Y	
Δ 652	3C	*	L07-0118-15	POWER TRANSFORMER	M	
Δ 652	3C	*	L07-0119-15	POWER TRANSFORMER	XT	
Δ 652	3C	*	L07-0120-15	POWER TRANSFORMER	E	

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新部品	部品番号	部品名 / 規格	仕向	備考
A	3C	*	N86-4006-45	BINDING HEAD TAPITITE SCREW		
B	2B, 3B	*	N89-3008-46	BINDING HEAD TAPITITE SCREW		
C	1A, 1D	*	N89-3008-45	BINDING HEAD TAPITITE SCREW		
D	2A	*	N09-1445-05	SET SCREW (X3X6)		
E	2B, 3B	*	N09-2804-05	TAPPING SCREW (2.6X6)		
655	1B	*	T90-0136-05	ANTENNA ADAPTOR		YXTE
658	1B	*	T90-0176-05	FM ANTENNA		
659	2B	*	T90-0173-05	LOOP ANTENNA		
TUNER UNIT (X06-398X-XX, 0-10; K, P type, 0-21; M type, 0-71; X type, 2-71; T, E type, 2-91; Y type)						
B49, B52			B30-1012-05	LED(SLP-981C-50)		
B54, B55			B30-1012-05	LED(SLP-981C-50)		
C1			CE04KW1H010M	ELECTRO 1.00UF	50KV	
C2			CE04KW1H010M	ELECTRO 100UF	25KV	
C3			CF92FV1H2733	MF 0.027UF	J	
C4			CE04KW1H010M	ELECTRO 1.00UF	50KV	
C5			CE04KW1H010M	ELECTRO 100UF	25KV	
C6, C7			C91-0769-05	CERAMIC 0.010UF	K	
C8, C11			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C12			C91-0085-05	CERAMIC 0.022UF	N	TE
C13, C14			CK45FF1H223Z	CERAMIC 0.022UF	Z	TE
C15			C91-0085-05	CERAMIC 0.022UF	N	TE
C16			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C17			CE04KW1H2R2M	ELECTRO 2.2UF	50KV	
C18			CE04KW1H47M	ELECTRO 4.7UF	35KV	
C19			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C20			CE04KW1H3R3M	ELECTRO 3.3UF	50KV	
C21			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C22			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C23			CE04KW1V100M	ELECTRO 10UF	35KV	
C24			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C25			CF92FV1H153J	MF 0.015UF	J	
C26			CE04KW1V100M	ELECTRO 10UF	35KV	
C27			CE04KW1H47M	ELECTRO 0.47UF	50KV	
C28, C30			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C31			CK45FF1H101J	CERAMIC 100PF	J	
C32			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C33			CE04KW1C470M	ELECTRO 47UF	16KV	
C34			CE04F81H471K	CERAMIC 470PF	K	TE
C35			CK45FF1H121J	CERAMIC 120PF	J	TE
C36			CK45FF1H271J	CERAMIC 270PF	J	YTB
C37			CF92FV1H152J	MF 1500PF	J	YTB
C38			CF92FV1H132J	MF 1300PF	J	TE
C39			CK45F81H471K	CERAMIC 470PF	K	
C40			CE04KW1H2R2M	ELECTRO 2.2UF	50KV	
C41			CE04KW1H3R3M	ELECTRO 3.3UF	50KV	
C42			CE04KW1H47M	ELECTRO 0.47UF	50KV	
C43			CF92FV1H473J	MF 0.047UF	J	
C44			CC93FCH1H471J	CERAMIC 470PF	J	
C45			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C46, C47			CK45FF1H221J	CERAMIC 0.022UF	Z	
C48			CE04KW1C101M	ELECTRO 100UF	16KV	
C49			CC45FSL1H680J	CERAMIC 68PF	J	TE
C50, C51			CE04KW1H3R3M	ELECTRO 3.3UF	50KV	
C52, C53			CF92FV1H752J	MF 7500PF	J	YH

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Ref. No. 参照番号	Address 位置	New Part 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C54 ,55			CF92FV1H153J	MF 0.015UF J	YXTE	
C54 ,55			CF92FV1H223J	MF 0.022UF J	KP	
C56 ,57			CK45FF1H103Z	CERAMIC 0.010UF Z		
C58 ,59			CC45FCH1H220J	CERAMIC 22PF J		
C60 -62			CC45FSL1H101J	CERAMIC 100PF J		
C63 -65			CK45FF1H103Z	CERAMIC 0.010UF Z		
C70			CF92FV1H223J	MF 0.022UF J		
C71			CE04KW1E332M	ELECTRO 3300UF J	25V	
C74 ,75			CK45FF1H103Z	CERAMIC 0.010UF Z		
C76			CF92FV1H223J	MF 0.022UF J		
C77 ,78			CE04KW1E470M	ELECTRO 47UF J	25V	
C79			CF92FV1H223J	MF 0.022UF J		
C80			CE04KW1E470M	ELECTRO 47UF J	10V	
C81			CF92FV1H223J	MF 0.022UF J		
C82			CE04KW1E101M	ELECTRO 100UF J	25V	
C83 ,84			CK45FF1H103Z	CERAMIC 0.010UF Z		
C85			CE04KW1H101M	ELECTRO 100UF J	50WV	
C86			CE04KW1H101M	ELECTRO 1.0UF J	50WV	
C90			C90-1027-05	BACKUP 0.047F	5.5WV	
C91			CE04JW1A101M	ELECTRO 100UF J	10V	
C92			C91-0769-05	CERAMIC 0.01UF K		
C93			CE04KW1H101M	ELECTRO 1.0UF J	50WV	
C94			C91-0769-05	CERAMIC 0.01UF K		
C95			CE04KW1C470M	ELECTRO 47UF J	16WV	
C98 ,99			CC45FCH1H330J	CERAMIC 33PF J		
C102			CK45FF1H103Z	CERAMIC 0.010UF Z		
C103			C91-0769-05	CERAMIC 0.01UF K		
C104			CE04JW0J100M	ELECTRO 10UF J	6.3WV	
C105			C91-0769-05	CERAMIC 0.01UF K		
C106,109			C91-0769-05	CERAMIC 220PF K		
C110			CE04JW1A101M	ELECTRO 100UF J	10WV	
C204			CE04KW1V220M	ELECTRO 22UF J	35WV	
C205			CF92FV1H102J	MF 1000PF J		
C206			CE04KW1V100M	ELECTRO 10UF J	35WV	
C207			CE04KW1H101M	ELECTRO 1.0UF J	50WV	
E1	1C		E20-0321-05	LOCK TERMINAL BOARD (ANTENNA)	YXTE	
E1	1C		E20-0476-05	LOCK TERMINAL BOARD (ANTENNA)	KPX	
F1			F05-4028-05	FUSE (UL)(125V,4A)	KP	
-			J13-0075-05	FUSE CLIP	KP	
CF1 ,2			L72-0531-05	CERAMIC FILTER	KPYMX	
CF1 ,2			L72-0536-05	CERAMIC FILTER	TE	
CF3			L72-0096-05	CERAMIC FILTER		
L1			L40-1091-17	SMALL FIXED INDUCTOR(1UH)	TE	
L2			L39-0192-05	COMBINATION COIL		
L3			L39-0193-05	COMBINATION COIL	TE	
L4			L30-0454-15	AM IFT		
L5			L40-1021-14	SMALL FIXED INDUCTOR(1.0mH,K)		
L6			L30-0439-25	FM IFT(10.7MHz)		
L7			L40-5625-29	SMALL FIXED INDUCTOR(5.6mH,J)	TE	
L8			L40-6825-29	SMALL FIXED INDUCTOR(6.8mH,J)		
L9			L40-1091-17	SMALL FIXED INDUCTOR(1UH)	TE	
L10			L40-1001-17	SMALL FIXED INDUCTOR(10UH)	KPYMX	
X1			L77-1122-05	CRYSTAL RESONATOR(7.2MHz)		

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A-711/711L

A-711/711L

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X3			L77-1175-05	CRYSTAL RESONATOR(4.19MHz)		
X4			L78-0274-05	RESONATOR(600kHz)		
C	18		N30-3008-46	PAN HEAD MACHINE SCREW		
F	18		N99-5008-45	BINDING HEAD TAPITTE SCREW		
CP1			R90-0802-05	MULTI-COMP 100KX10 J 1/4W		
CP2			R90-0492-05	MULTI-COMP 100KX5 J 1/4W		
CP3			R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
R16			RD14AB2E1013	FL-PROGOF RD 100 J 1/4W		
R21			RD14AB2E1013	FL-PROGOF RD 100 J 1/4W	TE	
R51			RD14AB2E1513	FL-PROGOF RD 150 J 1/4W		
R83, 84			RS14KB3D1813	FL-PROGOF RS 180 J 2W		
R85, 86			RS14KB3D2713	FL-PROGOF RS 270 J 2W		
R87			RS14KB3A2713	FL-PROGOF RS 270 J 1W		
R162			RS14KB3A2223	FL-PROGOF RS 2.2K J 1W		
R177			R92-0173-05	RC TRIMMING POT. 2.2K TUNE R 1/2W	KP	
VR1			R12-3128-05	TRIMMING POT. (22K)TUNE LEVEL		
VR2			R12-1089-05	TRIMMING POT. (4.7K)VC0		
VR3			R12-5040-05	TRIMMING POT. (220K)SEPARATION	TE	
S1	-35		S40-1064-05	PUSH SWITCH	YM	
S36			S31-2094-05	SLIDE SWITCH (22K)SPACE-DE-EM.	Y	
S37			S31-2092-05	SLIDE SWITCH (POWER TYPE)		
S38			S31-2128-05	SLIDE SWITCH (POWER TYPE)		
D1	-9		HSS104	D100E	TE	
D1	-9		HSS133	D100E	TE	
D1	-2		HSS104	D100E	KPYMX	
D9			HSS104	D100E	KPYMX	
D9			HSS133	D100E		
D11, 12			HSS133	D100E		
D18, 19			SS566B	D100B		
D21, 22			SS566B	D100E		
D23			HSS104	D100E		
D23			HSS133	D100E		
D25			HSSB-1N(B2)	ZENER D100E		
D25			R05.1ES(B2)	ZENER D100E		
D30 -47			HSS104	D100E		
D30 -47			HSS133	D100E		
D48			HSS104(B)	ZENER D100E		
D49			R0100E(B)	ZENER D100E		
D53			HSS104	D100E	YM	
D53			HSS133	D100E	YM	
D56 -61			HSS104	D100E		
D56 -61			HSS133	D100E		
D62			HSSB-1N(B2)	ZENER D100E		
D62			R03.3ES(B2)	ZENER D100E		
D62, 64			HSS104	D100E		
D63, 64			HSS133	D100E		
D65			HSS104	D100E	TE	
D65			HSS133	D100E	TE	
D67 -70			HSS104	D100E	XTE	
D67 -70			HSS133	D100E	XTE	
D68 -70			HSS104	D100E	KPYM	

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D68 -70			1SS133	D100E		KPYM
D202			HSSB-1S(B2)	ZENER D100E		
D202			R05.17S(B2)	ZENER D100E		
FL1	28		0-81-96K	FLUORESCENT INDICATOR TUBE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3			IC77001	IC(PLL FREQUENCY SYNTHESIZER)		
IC5			CXF50112-1270	IC(TUNER u-COM)		
IC6			UP07538ACU-232	IC(AMP. u-COM)		
IC7			IST5290	IC(RESET)		
IC9, 10			AN7805F	IC(VOLTAGE REGULATOR/ +5V)		
IC9, 10			UPC7805MF	IC(VOLTAGE REGULATOR/ +5V)		
Q1			2SC1923(R, R)	TRANSISTOR		
Q2			2SK163(L, R)	FET	TE	
Q3			2SC17405(Q, R)	TRANSISTOR		
Q3			2SC945(A)(Q, P)	TRANSISTOR		
Q4			2SC1845(F, R)	TRANSISTOR		
Q5 -7			2SC17405(Q, R)	TRANSISTOR	TE	
Q5 -7			2SC945(A)(Q, P)	TRANSISTOR	TE	
Q8			2SA733(A)(Q, P)	TRANSISTOR	KPYMX	
Q8			2SA933S(Q, R)	TRANSISTOR		
Q8 -10			2SA733(A)(Q, P)	TRANSISTOR	KPYMX	
Q8 -10			2SA933S(Q, R)	TRANSISTOR	TE	
Q10			2SA733(A)(Q, P)	TRANSISTOR	KPYMX	
Q10			2SA933S(Q, R)	TRANSISTOR	KPYMX	
Q11 -13			2SC17405(Q, R)	TRANSISTOR		
Q11 -13			2SC945(A)(Q, P)	TRANSISTOR	YM	
Q13			2SC17405(Q, R)	TRANSISTOR	KPXTTE	
Q13			2SC945(A)(Q, P)	TRANSISTOR	KPXTTE	
Q14 -16			2SA733(A)(Q, P)	TRANSISTOR		
Q14 -16			2SA933S(Q, R)	TRANSISTOR		
Q17			2SC17405(Q, R)	TRANSISTOR	YM	
Q17			2SC945(A)(Q, P)	TRANSISTOR	YM	
Q18, 19			2SD1302(S, T)	TRANSISTOR		
Q20			2SC17405(Q, R)	TRANSISTOR	TE	
Q20			2SC945(A)(Q, P)	TRANSISTOR	TE	
Q22, 23			2SD1266(Q, P)	TRANSISTOR		
Q22, 23			2SC17405(Q, R)	TRANSISTOR		
Q22, 23			2SC945(A)(Q, P)	TRANSISTOR		
A1	3B		W02-1048-05	ELECTRIC CIRCUIT MODULE		
A1	3B		W02-1049-05	ELECTRIC CIRCUIT MODULE		
DT1	1C		W02-1041-05	FM FRONT-END ASSY(A-711L)		
DT1	1C		W02-1042-05	FM FRONT-END ASSY(A-711)	TE	KPYMX
AUDIO UNIT X08-314X-X2, 0.11; K, P type, 0.21; M type, 2.71; X, T, E type 2.91; Y type)						
C1	2		CC45BSLH2213	CERAMIC		
C3	4		CE04KW1H010M	ELECTR0	1.0UF	50V
C5	6		CF92FV1H1533	MF	0.015UF	J
C7	10		CC45FB1H391K	CERAMIC	390PF	K
C11, 12			CC45FB1H222K	CERAMIC	220PF	K
C13 -18			CE04KW1V100M	ELECTR0	10UF	35V
C19, 20			CF92FV1H8233	MF	0.082UF	J
C21, 22			CF92FV1H2433	MF	0.024UF	J
C23, 24			CF92FV1H043	MF	0.10UF	J
C25 -28			CC45BSLH1012	CERAMIC	100PF	J

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Ref. No. 参照番号	Address 位置	Part No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Remarks 備考
C29, 30		CK45F81H471K	CERAMIC 470PF K		
C31, 32		CE04K1A101M	ELECTRO 100UF 10V		
C35, 36		CC45FSL1H820J	CERAMIC 82PF J		
C37, 38		CC45FSL1H220J	CERAMIC 22PF J		
C39, 40		CC45FSL1H101J	CERAMIC 100PF J		
C41, 42		CC45FSL1H221J	CERAMIC 220PF J		
C43, 44		CE04K1V100M	ELECTRO 10UF 35V		
C45, 46		CC45FSL1H820J	CERAMIC 82PF J		
C47, 48		CE04K1C220M	ELECTRO 22UF 16V		
C49, 50		CK45F1H103Z	CERAMIC 0.010UF Z		
C51-58		CF92FV1H104J	MF 0.10UF J	MXTE	
C53, 54		CF92FV1H473J	MF 0.047UF J	KPY	
C57, 58		CF92FV1H473J	MF 0.047UF J	KPY	
C59, 60		CK45F1H472Z	CERAMIC 4700PF Z		
C61, 62		CE04K1H101M	ELECTRO 1.0UF 50V		
C63, 64		CC45FSL1H101J	CERAMIC 100PF J		
C65, 66		CC45K1C220M	ELECTRO 22UF 16V		
C67, 68		CC45FSL1H100D	CERAMIC 10PF D		
C69, 70		CK45F81H102K	CERAMIC 0.10UF J		
C71, 72		CF92FV1H104J	MF 0.10UF J		
C75, 76		CK45F81H471K	CERAMIC 470PF K	XTE	
C101		CF92FV1H104J	MF 0.10UF J		
C102		CE04K1V100M	ELECTRO 10UF J		
C103		CF92FV1H274J	MF 0.27UF J		
C104		C90-1351-05	NP-ELEC 3.3UF 50V		
C105-110		CF92FV1H103J	MF 0.010UF J		
C111, 112		C91-0700-05	CERAMIC 0.1UF J		
C113		C90-1333-05	NP-ELEC 22UF 10V		
C114		CE04K1C220M	ELECTRO 22UF 16V		
C115		CE04K1C330M	ELECTRO 33UF 16V		
C116		CE04K1E101M	ELECTRO 100UF 25V		
C117-119		CE04K1E470M	ELECTRO 47UF 50V		
C120, 121		CE04K1E470M	ELECTRO 47UF 25V		
C122		CE04K1A470M	ELECTRO 47UF 10V		
C123		CE04K1H471M	ELECTRO 470UF 50V		
C124		CE04K1V470M	ELECTRO 4.7UF 35V		
C125, 126		CK45F2H103P	CERAMIC 0.010UF		
C127, 128		C90-1830-05	ALUMINUM ELECTROLYTIC C. 5600UF		
C129		CE04K1H101M	ELECTRO 100UF 50V		
C130		CE04D1C471M	ELECTRO 470UF 16V		
C131, 132		CE04K1E101M	ELECTRO 100UF 25V		
C133		CF92FV1H104J	MF 0.10UF J		
C134		CF92FV1H103J	MF 0.010UF J		
C135		CE04K1H331M	ELECTRO 330UF 50V		
C136-140		CE04K1H101M	ELECTRO 1.0UF 50V		
C141, 142		CK45F81H471K	CERAMIC 470PF K		
C143		CF92FV1H224J	MF 0.22UF J		
B1	2C	* B08-1508-05	RECTANGULAR RECEPTACLE (T9 GE)		
B2	2C	B13-0139-05	PHONE JACK (P/S, M888P)		
B3	1C	B20-0453-05	LOCK TERMINAL BOARD (4P, SP.)		
B4	1C	E11-0249-05	PHONE JACK (SURROUND)		
B5	2D	E11-0200-05	MINIATURE PHONE JACK (PHONES)		
F1, 2		* F51-0022-05	FUSE (250V 4.0A)	YKTE	
F3, 4		* F53-0019-05	FUSE (250V 2.0A)	YKTE	

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F4		* F53-0004-05	FUSE (125V 2A)	KP	
L1, 2		L39-0085-05	PHASE-COMPENSATION COIL		
C	2C	N89-3008-45	BINDING HEAD TAPITE SCREW		
G	2C	N09-0333-05	TAPPING SCREW (3X12)		
H	2C	N35-3008-44	BINDING HEAD MACHINE SCREW		
CP1, 2		R90-0187-05	MULTI-COMP 0.22X2 K 5W		
CP3, 44		RN1482C1960P	RV 194.0 F 1/6W		
R49, 50		R01482E151JTS	FL-PROOF RD 150 J 1/4W		
RS1, 52		R01482E222JTS	FL-PROOF RD 2.2K J 1/4W		
RS3, 54		R01482E181JTS	FL-PROOF RD 180 J 1/4W		
RS5, 56		R01482E151JTS	FL-PROOF RD 150 J 1/4W		
RS3, 54		R01482E487JTS	FL-PROOF RD 4.7 J 1/4W		
R75-78		RS140B100JTS	FL-PROOF RS 10 J 2W		
R79, 80		R01482E2487JTS	FL-PROOF RD 4.7 J 1/4W		
R147, 148		RS140B3047JTS	FL-PROOF RS 470 J 2W		
R169, 170		R01482E330JTS	FL-PROOF RD 33 J 1/4W		
R171		R01482E222JTS	FL-PROOF RD 2.2K J 1/4W		
R172, 173		RS140B30150J	FL-PROOF RS 15 J 2W		
R189		RS140B30331J	FL-PROOF RS 330 J 2W		
R190		RS140B3A681J	FL-PROOF RS 680 J 1W		
R192-195		* R01482E3060JTS	FL-PROOF RS 56 J 2W		
R196		R01482E362JTS	FL-PROOF RD 3.6K J 1/4W		
R197		RS140B3A471JTS	FL-PROOF RS 470 J 1W		
VR1	2C	* R29-5042-05	POTENTIOMETER (VOLUME CONTROL)		
VR2	2C	* R29-5043-05	POTENTIOMETER (N.B. CIRCUIT)		
VR3	2D	* R05-3015-05	POTENTIOMETER (BALANCE)		
X1, 2		* S51-2094-05	MAGNETIC RELAY (AC BN/0FF)		
X3		* S51-2095-05	MAGNETIC RELAY (SPEAKER BN/0FF)		
O1, 2		HSS104	010DE		
O3, 4		ISS133	010DE		
O3, 4		HSS104A	010DE		
O3, 4		ISS131	010DE		
O11		RBV-602LFA	010DE		
O12, 13		H25155(B)	ZENER 010DE		
O12, 13		R01535(B)	ZENER 010DE		
O14, 15		H255.1N(B2)	ZENER 010DE		
O14, 15		R05.15S(B2)	ZENER 010DE		
O16		H254.7N(B)	ZENER 010DE		
O17-26		R04.75S(B)	ZENER 010DE		
O17-26		HSS104	010DE		
O27, 28		ISS133	010DE		
O27, 28		HSS104A	010DE		
O27, 28		ISS131	010DE		
O29		S55668	010DE		
O31-35		HSS104	010DE		
O31-35		ISS133	010DE		
IC1, 2		MJ20589	IC (OP AMP X4)		
IC3		TC92159	IC (ANALOG SWITCH X 8)		
IC4		UPC1237HA	IC (POWER AMP)		
IC5, 6		TA84095	IC (MOTOR CONTROL)		
IC7		UPC7915HF	IC (VOLTAGE REGULATOR -15V)		
Q1-6		2SA992(F, E)	TRANSISTOR		

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# A-711/711L

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Q7 -10			2SC1845(F, E)	TRANSISTOR		
Q11 -12			2SC4137F19(V, W)	TRANSISTOR		
Q13 -14		*	2SD2258BT45	TRANSISTOR		
Q15 -16		*	2SB1493BT45	TRANSISTOR		
Q17 -18			2SC2631(R, S)	TRANSISTOR		
Q51			2SC2678(B)	TRANSISTOR		
Q52 -53			2SA733(A)(Q, P)	TRANSISTOR		
Q53 -53			2SA733S(Q, R)	TRANSISTOR		
Q54			2SA992(F, E)	TRANSISTOR		
Q55			2SC3666	TRANSISTOR		
Q56			2SC1740S(Q, R)	TRANSISTOR		
Q56			2SC945(A)(Q, P)	TRANSISTOR		
Q57			2SD1266(Q, P)	TRANSISTOR		

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# A-711/711L

## SPECIFICATIONS

### Receiver unit (A-711/L)

#### Amplifier section

##### Rated power output

35 watts per channel minimum RMS, both channels driven,  
at 6  $\Omega$  from 40 Hz to 20,000 Hz with no more than 0.09%  
total harmonic distortion (FTC)

(IEC/NF) From 63 to 12,500 Hz, 0.7% T.H.D.	
at 6 $\Omega$	40 W + 40 W
(DIN) 1 kHz, at 6 $\Omega$	43 W + 43 W
(IHF'66) From 40 to 20 kHz, 0.09% T.H.D.	
at 6 $\Omega$	39 W + 39 W
(EIAJ) Maximum useful power output	
at 6 $\Omega$	50 W + 50 W
Total harmonic distortion	0.09% at rated power 0.04% at 1 kHz, 1/2 rated power

#### Frequency response

CD, TUNER, AUX, TAPE..... 40 Hz~70 kHz, +1.5 dB, -3 dB  
Signal to noise ratio (IHF'66)

DAT INPUT..... 85 dB

#### Input sensitivity/Impedance

DAT INPUT..... 150 mV/47 k $\Omega$

N.B. circuit (-30 dB VOLUME level)..... +20 dB (at 60 Hz)

#### Output level/Impedance

SUB WOOFER OUT..... 1.0 V/3.6 k $\Omega$

Power consumption..... 200 W (IEC)

1.5 A (for U.S.A. and Canada)

Dimensions..... W: 270 mm (10-5/8")

H: 120 mm (4-3/4")

D: 292 mm (11-1/2")

Weight (Net)..... 5.4 kg (11.88 lb)

#### A-711L FM tuner section

Tuning frequency range..... 87.5 MHz~108 MHz

Usable sensitivity (DIN at 75  $\Omega$ )

MONO..... 0.8  $\mu$ V

STEREO..... 29  $\mu$ V

Total harmonic distortion (DIN at 1 kHz)

MONO..... 0.2% (65.2 dBf input)

STEREO..... 0.3% (65.2 dBf input)

Signal to noise ratio (DIN weighted at 1 kHz)

MONO..... 68 dB (65.2 dBf input)

STEREO..... 63 dB (65.2 dBf input)

#### Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

#### Stereo separation (DIN)

1 kHz..... 40 dB

Frequency response..... 30 Hz~15 kHz, +0.5 dB, -3.5 dB

#### MW tuner section

Tuning frequency range..... 531 kHz~1,602 kHz

Usable sensitivity..... 14  $\mu$ V/(500  $\mu$ V/m)

Signal to noise ratio

(at 30% mod. 1 mV input)..... 50 dB

#### LW tuner section

Tuning frequency range..... 153 kHz~281 kHz

Usable sensitivity..... 25  $\mu$ V/(1000  $\mu$ V/m)

Signal to noise ratio

(at 30% mod. 1 mV input)..... 47 dB

#### A-711 FM tuner section

Tuning frequency range..... 87.5 MHz~108 MHz

Usable sensitivity (MONO at 75  $\Omega$ )..... 0.95  $\mu$ V/10.8 dBf

Total harmonic distortion (at 1 kHz)

MONO..... 0.2% (65 dBf input)

STEREO..... 0.3% (65 dBf input)

Signal to noise ratio (at 1 kHz)

MONO..... 76 dB (65 dBf input)

STEREO..... 70 dB (65 dBf input)

Stereo separation 1 kHz..... 45 dB

Frequency response..... 30 Hz~15 kHz, +0.5 dB, -3.5 dB

#### AM tuner section

##### Tuning frequency range

9 kHz step..... 531 kHz~1,602 kHz

10 kHz step..... 530 kHz~1,610 kHz

Usable sensitivity..... 14  $\mu$ V/(500  $\mu$ V/m)

Signal to noise ratio

(at 30% mod. 1 mV input)..... 50 dB

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